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Claims

10 1. A spindle head for a machine tool comprising a
motor-spindle unit arranged in the spindle head which a
drive motor whose motor shaft is adapted to serve as a
spindle to mount tools, workpieces or workpiece blanks,
15 wherein the drive motor of the motor-spindle unit is able
to slide in the axial direction in the spindle housing,
and a compressible means is provided for resisting axial
displacement of the drive motor into the spindle housing
so that such compressible means holds the drive motor in
its intended working position up to a predetermined axial
20 force level.

 2. The spindle head as set forth in claim 1,
comprising as a compressible means at least one spacing
element or spring element adapted to deform when
25 predetermined axial force level is reached.

 3. The spindle head as set forth in claim 2, wherein
the compressible means is arranged between axially
opposite faces of the spindle housing and of the drive
30 motor of the motor-spindle unit.

 4. The spindle head as set forth in claim 3, wherein
the compressible means is constituted by an annular
element encircling the drive motor.

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5. The spindle head as set forth in claim 2,
comprising at least one axially aligned holding screw
holding the drive motor in the axial direction on the
spindle housing, the head of such screw bearing against
the compressible means.

6. The spindle head as set forth in claim 5,
comprising a plurality of holding screws distributed about
the periphery of the drive motor, each holding screw being
provided with a compressible sleeve or said holding screws
bearing against an intermediate annular element
surrounding the drive motor.

7. The spindle head as set forth in claim 1,
comprising a switching means responsive on deformation of
the compressible means.

8. The spindle head as set forth in claim 7,
comprising sensor means adapted to detect a relative axial
movement between the drive motor and the spindle housing,
such sensor means being adapted to cause operation of the
switching means.

9. The spindle head as set forth in claim 8, wherein
the drive motor is provided with a peripheral groove with
a sensor element fitting into it, such sensor element
being guided on the spindle housing, a radial displacement
of the sensor element, caused by axial displacement of the
drive motor, being linked with same for causing operation
of the switching means.

10. The spindle head as set forth in claim 7, wherein
the switching means is designed to switch off or reverse
the spindle feed or the tool feed or to switch off the
entire machine tool.